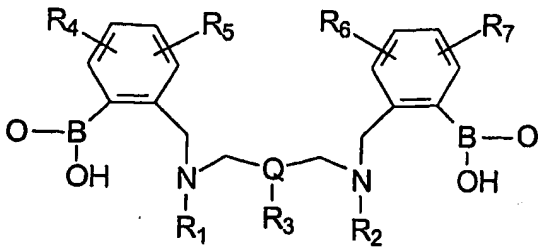
We claim:

1. A compound of the formula:



where:

Q is a fluorophore;

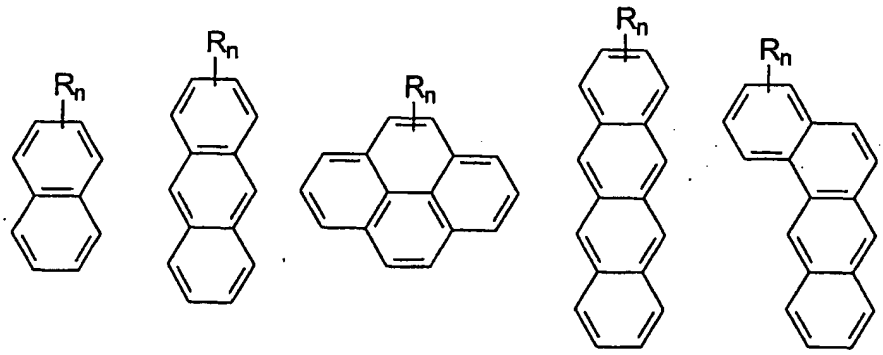
R_1, R_2, and R_3 are independently selected from the group consisting of linker arms and non-linker substituents;

where the linker arm is a saturated or unsaturated, substituted or unsubstituted, hydrocarbon of about C_{30} or fewer, and is covalently bonded to a solid-phase material;

where the non-linker substituent is hydrogen, or a saturated or unsaturated, substituted or unsubstituted, hydrocarbon of about C_{20} or fewer; and

R_4, R_5, R_6, and R_7 are the same or different, and are selected from the group consisting of hydrogen, alkyl, alkenyl, aryl, arylalkyl, substituted alkyl, acyl, alkyloxy, and halogen.

2. The compound of claim 1, wherein Q is selected from the group consisting of :



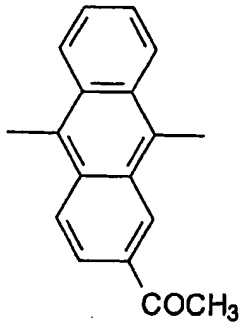
and wherein R_n may be a plurality of substituents independently selected from hydrogen, halogen, acyl, alkyloxy, nitro, carboxylic acid, and carboxylic acid ester.

3. The compound of claim 1, wherein the difference between the excitation peak and the emission peak upon saccharide conjugation is at least about 40 nm.

4. The compound of claim 1, wherein the relative intensity of the fluorescence of the molecule is greater than about 1.5 across the physiological range of glucose concentration.

5. The compound of claim 2, wherein said acyl group is acetyl.

6. The compound of claim 1, wherein Q is:



7. The compound of claim 1, wherein said linker arm is selected from the group consisting of:

-X-Y, -X-O-Y, -X-NH-Y, -X-N=Y, -X-NR-Y, X-CO-Y, -X-COO-Y, -X-OCO-Y, -X-NHCO-Y, -X-CONH-Y, -X-N=C(O-Y)$_2$, -X-NHCH(NH$_2$)-O-Y, -X-S-Y, -X-S-S-Y, -X-SO$_2$NH-Y and -X-NHSO$_2$-Y;

wherein:

R is alkyl, alkenyl, aryl, arylalkyl, or acyl;

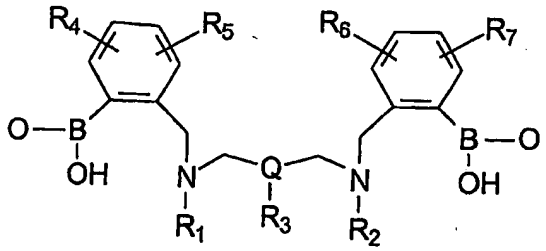
X is a saturated or an unsaturated hydrocarbon chain; and

Y is a solid-phase material.

8. The compound according to claim 7, wherein the solid-phase material is a biocompatible polymer selected from the group consisting of cellulose, polystyrene, polyamide, polyethersulfone, polyethyleneglycol, polypropyleneglycol, polyvinylalcohol, polysiloxane, nylon, and copolymers thereof.

9. The compound of claim 8, wherein the solid-phase material is a regenerated cellulose or nylon.

10. A compound of the formula:



wherein:

Q is a fluorophore;

R_1 and R_2 are the same and are selected from the group consisting of carboxyalkyl and alkylamino substituents, and are covalently bound to a solid-phase support material; and

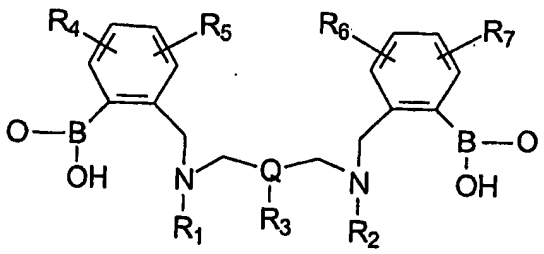
R_3 is selected from the group consisting of hydrogen, halogen, alkyl, acyl, alkyloxy, nitro, carboxylic acid, and carboxylic acid ester; and

R_4, R_5, R_6, and R_7 are the same or different, and are selected from the group consisting of hydrogen, alkyl, alkenyl, aryl, arylalkyl, acyl, alkyloxy, and halogen.

11. The compound of claim 10 wherein R_1 and R_2 are both $-CH_2$-C(O)-OH or -C_6H_{12}-NH_2.

12. The compound of claim10, wherein R_1 and R_2 both include a polypropyleneglycol spacer between the saccharide dye and the solid-phase material.

13. A compound of the formula:



where:

Q is anthracene;

R_1 and R_2 are $C_1 - C_{12}$ hydrocarbons covalently bonded to a solid-phase material; and

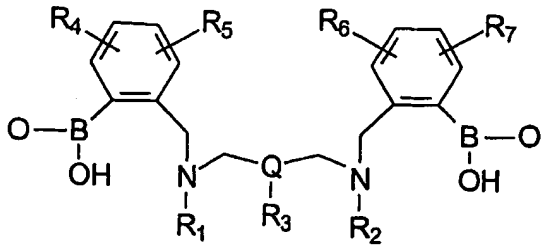
R_3 is acetyl; and

R_4 and R_5, and R_6 and R_7 are either all H, or the two pairs respectively form a condensed aromatic ring structure.

14. The compound of claim 13, wherein the difference between the excitation peak and the emission peak for the compound upon saccharide conjugation is about 40 nm or greater.

15. The compound of claim 13, wherein the compound has a fluorescence relative intensity of at least about 1.4 upon saccharide conjugation.

16. A compound of the formula:



wherein:

Q is anthracene;

R_1 and R_2 are non-linker hydrocarbons of $C_1 - C_{12}$;

R_3 is an amide containing hydrocarbon linker arm covalently bonded to a polymeric solid-phase support; and

R_4 and R_5, and R_6 and R_7 are either all H, or the two pairs respectively form a condensed aromatic ring structure.

17. The compound of claim 14, wherein the excitation-emission differential of the dye upon saccharide conjugation is about 70 nm or greater.

18. The compound of claim 14, wherein the relative intensity of the fluorescence of the dye is about 2.0 across the physiological range of glucose.

19. The compound of claim 14, wherein the polymeric solid-phase support is a regenerated cellulose or activated nylon.

20. A sensor for detecting the concentration of saccharide in a biological fluid comprising a fluid conduit wherein a compound of claim 1 is covalently attached to an interior wall of the conduit such that the compound is in contact with fluid flowing through the conduit.

21. A method for detecting the concentration of saccharide in a biological fluid comprising contacting a biological fluid with an immobilized compound of claim 1, and measuring the relative intensity of fluorescence of the compound.

22. A method for immobilizing a compound of claim 1 comprising reacting a compound of the formula:

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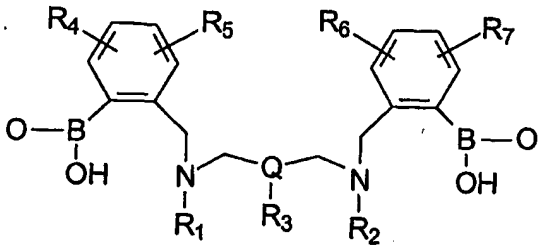


where:

Q is a fluorophore;

R_1, R_2, and R_3 are independently selected from the group consisting of: hydrogen, amino-terminated hydrocarbons of about C_{30} or fewer, and a hydrocarbon of about

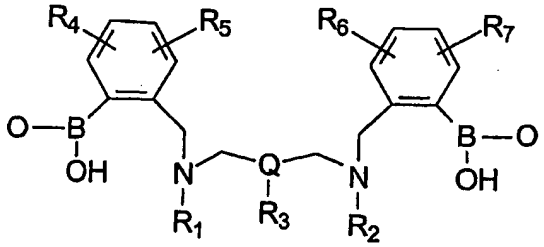
C_{30} or fewer, such that at least one of R_1, R_2, and R_3 is a amino-terminated hydrocarbon;

R_4, R_5, R_6, and R_7 are the same or different, and are selected from the group consisting of hydrogen, alkyl, alkenyl, aryl, arylalkyl, acyl, alkyloxy, and halogen; and

reacting the amino-terminated hydrocarbon with a polymer activated with a functional group selected from the group consisting of carboxyl, carbonyl, cyanogenbromide, epoxy, and isocyanate.

23. The method of claim 22, wherein the activated polymer is cross-linked with ethylenediamine.

24. A method for immobilizing a compound of claim 1 comprising reacting a compound of the formula:



where:

Q is a fluorophore;

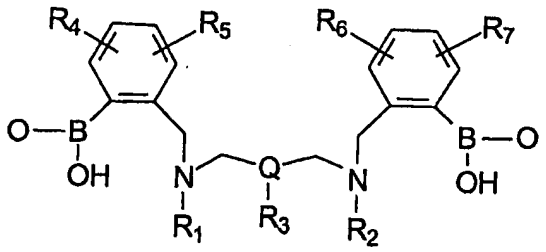
R_1, R_2, and R_3 are independently selected from the group consisting of: hydrogen, carboxyl-terminated hydrocarbons of about C_{30} or fewer, and a hydrocarbon of

about C_{30} or fewer, such that at least one of R_1, R_2, and R_3 is a carboxyl-terminated hydrocarbon;

R_4, R_5, R_6, and R_7 are the same or different, and are selected from the group consisting of hydrogen, alkyl, alkenyl, aryl, arylalkyl, acyl, alkyloxy, and halogen; and

reacting the carboxyl-terminated hydrocarbon with an amino-activated solid-phase polymer.

25. A method for immobilizing a compound of claim 1 comprising reacting a compound of the formula:



where:

Q is a fluorophore;

R_1, R_2, and R_3 are independently selected from the group consisting of: hydrogen, amino-terminated hydrocarbons of about C_{30} or fewer, and a hydrocarbon of about C_{30} or fewer, such that at least one of R_1, R_2, and R_3 is an amino-terminated hydrocarbon;

R_4, R_5, R_6, and R_7 are the same or different, and are selected from the group consisting of hydrogen, alkyl, alkenyl, aryl, arylalkyl, acyl, alkyloxy, and halogen; and

reacting the amino-terminated hydrocarbon with isocyanate-activated polypropylene glycol; and

cross-linking the polypropylene glycol with ethylene diamine.